

REMARKS/ARGUMENTS

Claims 1-21 and 23-25 are pending in this application. In response to the Examiner's §112 rejections (discussed below), independent claims 1 and 23 have been amended to delete the word "substantially" from the phrase, "to provide a substantially homogeneous non-settling ink composition". No new matter is added by this amendment.

Claims 1 and 23 are also amended herein, for the purpose of further distinguishing applicant's invention over the prior art, to recite that: (1) the opaque ink coloring composition is specifically, "adapted for use in at least one of a wick style and a free ink system writing instrument" - support for this amendment is found at, for example, page 17, lines 1-2, page 1, lines 15-24 and page 3, lines 18-21; and (2) that the opaque ink coloring composition of the invention does not contain the opacifier, titanium dioxide. Support for this latter amendment is found on page 1 line 21. Claim 23 has additionally been amended to recite that the marking instrument which is the subject of the invention is selected from among wick style and free ink system writing instruments. The amendments are entirely supported by the application as filed and they, therefore, add no new matter to the application.

This Amendment after final rejection is believed by applicant to overcome all of the Examiner's grounds for rejection set forth in the Office Action, or at a minimum to substantially reduce the issues for an appeal. Entry of the Amendment is, therefore, respectfully solicited. Upon such entry, claims 1-21 and 23-25, as amended, will be pending in the application.

Claim Rejections Under 35 U.S.C. §112

a) Rejection Under 35 USC 112, Paragraph One

Claims 1-21 and 23-25 are rejected under 35 USC 112, First Paragraph, due to an alleged failure by those claims to comply with the so-called 'written description requirement' of the statute.

In response to the rejection, applicant has amended claims 1 and 23, as noted above, to remove the word "substantially" from the phrase, "to provide a substantially homogeneous non-settling ink composition.". These amendments are believed to overcome the grounds which form the basis of the rejection under 112, First Paragraph. The Examiner is, therefore, respectfully requested to reconsider and withdraw the subject rejection.

B) Rejection Under 35 USC, Paragraph 2

Claims 1-21 and 23-25 are rejected under 35 USC 112, Second Paragraph, due to an alleged failure by those claims to ‘particularly point out and distinctly claim’ the subject matter which applicant regards as the invention.

Applicant respectfully submits, in response, that the amendment as described above, whereby the word “substantially” is deleted from the claim, is believed to overcome the subject rejection. The Examiner is, therefore, respectfully requested to reconsider and withdraw the rejection of claims 1-21 and 23-25 in light of the amendments to claims 1 and 23.

Claim Rejections Under 35 U.S.C. §102

Claims 1-2, 4-9, 11-14, 17-18, 21, 23 and 25 are rejected under 35 U.S.C. §102(e) over USP 6,492,435 of Miyamoto et al. (“the ‘435 Patent”) taken in view of the evidence given in Miyamoto et al. ‘090 (US 6,451,099) for the reasons set forth, *inter alia*, in ¶4 of the previous Office Action mailed August 24, 2005 in this application.

These references, as well as the others noted below, are extensively discussed by applicant in the Response dated November 23, 2005 and those remarks are expressly incorporated herein by reference.

In response to the §102 rejection based upon the ‘435/’099 Patents, applicant has amended independent claims 1 and 23 to recite: (1) that the claimed composition is specifically adapted for use in at least one of a wick style and a free ink system writing instrument, and (2) that the composition does not contain, *inter alia*, titanium dioxide. Moreover, claim 23 is further amended to recite that the claimed marking instrument of the invention is selected from among such wick style and free ink system writing instruments. These amendments are believed to further differentiate applicant’s claimed invention from the disclosure of the cited references and thus, for the reasons which follow the rejection(s) based upon the subject references should be reconsidered and withdrawn.

In the prior response dated November 22, 2005, Applicant pointed out a number of distinctions between the present invention and the disclosure contained in the ‘435/’099 Patents. Many, if not most, of these distinctions, were traversed, however, in the “Response to Arguments” by the Examiner at pps. 7-16 of the Office Action. Applicant has, therefore, further

amended the claims of this application to further distinguish the invention over the art and these amended claims are believed to distinguish the invention thereover.

As pointed out, e.g., at p. 8 of applicant's prior Amendment dated November 22, 2005, the '435 patent specifically discloses ball-point pen inks which do not work in a wick style marker or in a free ink system marker (of the type now recited in applicant's independent claims). Settling of such ball-point pen inks is prevented, in contrast to the presently claimed invention, by their thickness or jelly-like structure. An ink flow of such a high viscosity ink would not be possible in the wick style marker and/or free ink system marker according to the present invention, however. Furthermore, the '099 patent discloses the use of titanium dioxide in the ink formulation described therein, which is not a component of the presently claimed ink formulation.

The Examiner addressed the above arguments at pps. 7-9 of the present Office Action. With the Examiner's comments in view, applicant has now further amended the claims of his application, as noted herein, in a manner which is calculated to overcome the Examiner's objections. For example, in referring to applicant's argument that the high viscosity of the ink disclosed in the '435 patent would not permit its use in wick style markers or free ink system markers, the Examiner notes that in the claims there is no requirement that the ink according to the invention be used in such wick style marker or free ink system marker, only that the ink be "suitable for use in markers." The Examiner argues that the phrase, "suitable for use" is only a statement of intended usage, and does not serve to distinguish the claim. The Examiner additionally states that the term "marker" is sufficiently broad to encompass a ball-point pen, as disclosed by the '435 reference.

Applicant has, therefore, amended independent claims 1 and 23 to clarify for the Examiner what he perceives as his invention. As now amended, claim 23 recites that the 'marking instrument' of the invention is "selected from among wick style and free ink system writing instruments", thus excluding ball-point pens. Furthermore, claims 1 and claim 23 are both amended to recite that the water-based opaque ink coloring composition of the invention is specifically adapted (i.e., formulated) to be used in at least one of a wick style and a free ink system writing composition. See, e.g., the text at p. 4, lines 8-11 of the present specification which describe the claimed adaptation as follows, "The foregoing and other objects of the invention are realized by careful choice and use of ingredients that eliminates settling and separation of the ink system and provide a cost-effective capillary type writing instrument which

will provide the consumer with long shelf life and effective use.” Clearly, in view of at least the viscosity of the jelly-like formulation disclosed in the ‘435 patent, the ink composition taught therein is not only not adapted specifically for use in the writing implement environment now recited in applicant’s amended claims, it most likely would not operate at all in such a writing instrument. Applicant submits, therefore, that as amended, the independent claims of his application are believed to be completely distinguishable over the Miyamoto et al. ‘435 Patent and thus that patent should be withdrawn as a reference against the subject claims.

The remaining claims of the application depend from either claim 1 or claim 23, directly or indirectly, and thus they contain all of the limitations set forth in these independent claims. The dependent claims are thus believed to distinguish over the cited references for the same reasons as claims 1 and 23.

Further to the above, applicant pointed out in his November 22, 2005 Amendment that the ‘099 patent utilizes titanium dioxide, whereas the presently claimed formulation and writing instrument avoid the use of such titanium dioxide due to settling problems which otherwise may occur upon the inclusion of that material (see p.1, lines 10-12 of the present specification). In her response, however, the Examiner points to the “open” language of the present claims, i.e., which use the word, “comprising” in their preamble and which state that the claims are open to the inclusion of additional ingredients, including titanium dioxide. In response, therefore, applicant has now amended both independent claims of his application (nos. 1 and 23) to recite that ink formulation specifically excludes such titanium dioxide. Thus the subject claims (i.e., nos 1 and 23 and the claims which depend from claims 1 and 2) also distinguish the invention over the ‘099 patent.

Thus, since the invention as now claimed is thus distinguishable over the ‘435 Patent, and since the ‘099 Patent utterly fails to supply the elements missing from the ‘435 reference, applicant submits that the anticipation rejection based upon Miyamoto et al. ‘435 cannot be supported and should, therefore, be reconsidered and withdrawn.

Claim Rejections Under 35 U.S.C. §103

Claims 15-16 are rejected under the ‘435 Patent in view of Wang et al. (U.S. 5,769,931) for the reasons set forth in ¶6 of the Examiner’s Office Action dated August 24, 2005. This rejection is respectfully traversed. The rejected claims depend from claim 1 and thus include all of

the recitations of that claim. Claim 1 is distinguished for the reasons above over Miyamoto '435 and, thus, so are claims 15 and 16.

As to the Wang '931 patent, combined with Miyamoto '435 to reject the subject claims, the subject reference refers to an ink with high viscosities to avoid settling problems. As pointed out in applicant's prior response filed in this case, the reference teaches the use of various gums to increase and maintain viscosity. There is, however, no teaching or even a suggestion in the subject reference to use hollow microspheres in order to produce opacity, and/or to the use of dimethicone copolyols to suspend such microspheres. Further to the above, due to their high viscosities, the inks disclosed in the '931 Patent will not work in a wick style and/or a free ink system writing instrument because their viscosity ranges would prevent any flow through such writing instruments. In contrast, independent claim 1, as now amended specifically recites an ink composition which is adapted for use in at least one of such a wick style and a free ink system writing instrument. Thus, the Wang '931 Patent clearly does not supply the elements of applicant's claimed invention missing from the '435 Patent and thus neither Wang nor Miyamoto '435, taken individually or in combination, teaches the invention as presently recited in claims 15-16. The Examiner is, thus, respectfully requested to reconsider and withdraw the rejection of claims 15-16.

Claim 19 is rejected under 103 over Miyamoto '435 in view of Imagawa et al. 5,716,217 for the reasons set forth in ¶7 of the Examiner's August 24, 2005 Office Action. This rejection is respectfully traversed. The rejected claim depends directly on claim 1 and thus it includes all of the recitations set forth in that claim. Claim 1 is, moreover, distinguished above over the Miyamoto '435 Patent and those remarks are incorporated by reference into this discussion.

Turning now to a discussion of the '217 Imagawa et al. reference, applicant notes that, as pointed out, e.g., at pp. 8-9 of his prior Amendment dated November 22, 2005, the '217 patent to Imagawa et al. specifically limits itself to applications on "neon boards" or "lighted boards" as mentioned in page 1, lines 25-45 of the '217 Patent. The reference contains no teaching with regard to the need to suspend hollow microspheres or to prevent those hollow microspheres, when present, from settling. This is due, at least in part, to the fact that there is no recognition within the reference dealing with such neon boards and/or lighted boards, regarding any necessity for the adaptation of the ink compositions described therein for use in at least one of a wick style and a free ink system writing instrument as is now specifically recited in applicant's claims.

Still further, on page 11 of the present Office Action, in the “Response to Arguments”, the Examiner acknowledges that the ‘217 Patent is drawn to an ink for application on neon boards or lighted boards, but argues that there is nothing in the scope of the present claims which excludes using the ink in such manner. As indicated above, therefore, applicant has now included such a recitation in, e.g., claim 1 (and claim 23) which now recites that the claimed ink formulation must be adapted for use in at least one of a wick style and a free ink system. The formulation described in the ‘217 Patent clearly is not in any manner adapted for the purpose now indicated in applicant’s independent claims, i.e., for use in at least one of a wick style and a free ink system writing instrument.

Further in contrast to the present invention, the ‘217 Patent teaches to use a carboxylic acid ester as a separating agent. This material is used, however, to aid in the removability of the ink from its intended writing surface, i.e., the neon boards. In the present invention, it is the cohesive bonding of the dimethicone copolyol and the polymeric particles which produces a non-settling composition, i.e., wherein the hollow microspheres are prevented from settling. Thus, not only do the present invention and that disclosed in the ‘217 Patent utilize two completely different settling-avoidance mechanisms, they are also adapted for use in completely different applications. That is, whereas the present invention is adapted for use in at least one of a wick style and a free ink system writing instrument, the ink disclosed in the “217 Patent is for use in neon boards or lighted boards as described in the subject reference.

For the reasons above, therefore, the Examiner is respectfully requested to reconsider and withdraw the rejection of claim 19 based on the combination of Miyamoto ‘435 and Imagawa ‘217.

Still further, claims 1, 3-4, 6-12, 18-19 and 21 are rejected under §103 over Loria et al. (USP 4,880,485) in view of Takemoto et al. (USP 6,827,433) for the reasons set forth in ¶9 of the prior Office Action. These two references are discussed in detail on p. 11 of applicant’s November 22, 2005 Amendment. As noted therein, U.S. 4,880,465 to Loria specifically states in its Abstract that the ink described therein is to be used for ink-jet printing. This method of printing utilizes an electrical charge. Applicant’s invention does not involve inks useful in ink-jet applications. Rather, as now specifically recited in the independent claims of the application, the ink formulation of the present invention is, in contrast to Loria, specifically adapted for use in at least one of a wick style and a free ink system writing instrument.

Further to the above, while the '465 Loria patent does utilize hollow microspheres, the subject reference does not disclose the use of dimethicone copolyols for preventing settling problems which otherwise tend to occur with the use of such microspheres. The reason behind the absence of dimethicone copolyols is because although the ink can be agitated while in the storage container, the ink is not stored in the delivery nozzle for an extended period of time. Therefore, settling problems do not occur and the use of dimethicone copolyols, which are included in applicant's claimed formulation, is not necessary. This is opposite to the settling problems which are otherwise inherent in wick style and free ink system writing implements, as encountered in the case of the present invention.

In addition, ink-jet inks have completely different requirements from inks according to the present invention, i.e., those which are for use in at least one of a wick style and a free ink system writing instrument. That is, ink-jet inks need to have a resistivity of 100-1000 ohm-cm, as mentioned in page 5, line 20 of the '465 patent. The ink of applicant's invention does not have such a requirement and thus does not meet this physical parameter, since it is unnecessary for inks which, in the case of those presently recited in applicant's claims, are adapted for use in wick style and/or free ink system writing instruments. Thus claim 1 and the claims depending therefrom are clearly distinguishable over the Loftin '793 reference.

The Takemoto '433 invention also relates to the ink-jet industry. The '433 invention does not mention or even utilize hollow microspheres since the inventors had no need to show opacity on dark surfaces. The silicone is used solely to achieve a good image on plain paper, i.e. to improve printability from the ink-jet printer, as mentioned on page 1, lines 60-65 of the patent. Takemoto '433 does not supply the element(s) of the invention missing from the Loftin patent, namely that the subject ink formulation is adapted for use in wick style/free ink system writing implements. Therefore, the subject claims are also distinguishable over Takemoto '433, whether taken individually or in combination with the Loftin '793 patent. The Examiner is thus respectfully requested to reconsider and withdraw the rejection of claims 1, 3-4, 6-12, 18-19 and 21 under §103.

Claim 2 is rejected under 103(a) over Loria '465 in view of Takemoto '433, as applied above to claims 1, 3-4, 6-12, 18-19 and 21, and further in view of Imagawa et al. (U.S. 5,716,217). Claim 2 depends from claim 1 and thus contains all of the recitations of that claim.

Claim 1 is distinguished above over both Loria '465 and Takemoto '433 and those comments are specifically incorporated into this discussion by reference thereto.

Turning to Imagawa, this reference is discussed above with regard to the rejection of claim 19. As indicated therein, this patent utilizes hollow sphere pigments but specifically limits itself to applications on "neon boards" or "lighted boards" as mentioned in page 1, lines 10-25. In contrast, as now recited in applicant's claims (see, e.g., claim 1), the ink composition of the present invention is adapted for use in at least one of a wick style and a free ink system writing instrument. Additionally, the reference does not contain any teaching that there is a need to suspend or prevent the hollow microspheres from settling, as there is in the case of inks incorporating the presently claimed adaptation(s). Still further, as mentioned on page 5, lines 25-45 of the '217 patent, a carboxylic acid ester is used as a separating agent. The carboxylic acid ester is used in aiding the removability of the ink from its intended writing surface, i.e. the neon boards. The Applicant's invention does not employ this type of process. Furthermore, as mentioned in page 6, lines 50-55 of the '217 patent, the assertions made that the particles with hollow microspheres will not coagulate or settle after long term storage in the pen was not substantiated by the inventors. This is the Applicant's reason for using dimethicone copolyols to suspend the hollow microspheres is to prevent coagulation and settling, which is an important problem in the case of inks adapted for use in at least one of a wick style and a free ink system writing instrument.

For the reasons above claim 2 is believed to distinguish the invention over all of the references cited to reject that claim, whether taken individually or in combination and the Examiner is, therefore, respectfully requested to reconsider and withdraw the rejection of the subject claim under §103.

Claims 13-14 are rejected under §103 over Loria '465 in view of Takemoto '433 as applied above in the rejection of claims 1, 3-4, 6-12, 18-19 and 21 and further in view of Beach et al. (U.S. 6,309,452). Claims 13-14 depend, directly or indirectly, upon claim 1 and thus they include all of the recitations of that claim. The rejection is respectfully traversed.

The Loria '465 and Takemoto '433 references are discussed above in detail and those remarks are specifically incorporated herein by reference. Claim 1 is clearly distinguishable over those references for the reasons set forth above.

Turning, next, to a discussion of the Beach et al. '452 patent, cited as a secondary reference in combination with Loria '465 and Takemoto '433, the invention described in Beach '452 refers to printing inks having requirements for Wet-Rub resistance. Applicant's invention does not have such a requirement. Furthermore, the '452 patent applies heat and pressure to cure the ink onto its substrate. The present invention does not need such heat and pressure as it is directed to an ink composition for use in at least one of a wick style and a free ink system writing instrument. In addition to the above, the Beach patent lacks any teaching to use dimethicone copolyol to suspend the hollow microspheres, since there is no need for such suspension in Beach and long term storage is also not an issue, in contrast to the present invention. Thus, claims 13-14 are deemed to be distinguishable over Beach et al. '452, whether the reference is taken alone, or in combination with either or both of Loria '465 and/or Takemoto '433. The Examiner is thus respectfully requested to reconsider and withdraw the rejection of claims 13-14 over the cited combination of references.

Claims 15-16 are rejected under §103 over Loria '465 in view of Takemoto '433 as applied above, and further in view of Pearlstein et al. (U.S. 6,087,416). Claims 15 and 16 both depend, directly or indirectly, from claim 1 and contain all of the recitations of that claim. The rejection under §103 is respectfully traversed.

The reasons why claim 1 is distinguishable over the Loria '465 and Takemoto '433 references are discussed above in detail and those remarks are specifically incorporated herein by reference.

Turning, therefore, to a discussion of the secondary reference, i.e., Pearlstein, applicant notes that U.S. 6,087,416 is another invention related to the ink-jet industry. Thus, the presently claimed ink formulation, which is adapted for use in at least one of a wick style and a free ink system writing instrument, and not in an ink-jet apparatus, is readily distinguishable since ink jet formulations have different requirement from those that are the subject of the present invention, For instance, the '416 patent does not contain hollow microspheres and has no need to show opacity on dark surfaces. The silicone and/or fluorinated chemicals in Pearlstein's invention are solely used to wet the intended substrate and improve printability. They are not used to improve stability, suspend any pigment or prevent settling. Thus, claims 15-16 are distinguishable over Pearlstein '416, whether taken alone or in combination with either or both of Loria '465 and/or

Takemoto '433. The Examiner is, therefore, respectfully requested to reconsider and withdraw the rejections of claims 15-16 under §103.

Claims 1-21 and 23-24 are rejected under §103 over the combination of Imagawa '217, Loftin '793 and Tanaka et al. (US 2003/0228430). Claims 1-22 depend, directly or indirectly, on claim 1 and thus include all of the limitations of that claim. Claim 1 is distinguished above over both Imagawa '217 and Loftin '793. These references are combined, however with Tanaka et al. as indicated above. Turning thus to a discussion of that reference, Tanaka has no relationship to markers and/or writing instruments in general. Tanaka et al thus does not describe, or even suggest, an ink coloring composition that is adapted for use in at least one of a wick style and a free ink system writing instrument as described in the present specification and as is now recited in applicant's claims. Tanaka's invention relates to thermal transfer printing. The use of hollow microspheres in the adhesive layer of the printing process does not apply in any way to such writing instruments and their inks. There is no mention, moreover, in the reference of suspending, stability and/or storage within a marker or writing instrument system. The entire publication describes a process for printing thermal transfers and is just another novel of use of hollow microspheres that is completely unrelated to applicant's invention.

As demonstrated above, therefore, claims 1-22 are distinguishable over Imagawa '217, Loftin '793 and Tanaka et al., whether those references are taken individually or in any combination.

Furthermore, claims 23 and 24 are also included in the above-indicated rejection. Claim 23 is written in independent form and claim 24 depends from that claim. Claim 23 is directed to a writing instrument for applying an opaque ink coloring composition, wherein the ink coloring composition recited in the claim is as described in claim 1. That is, the ink composition for use in the writing instrument of claim 23 is adapted for use in at least one of a wick style and a free ink system writing instrument. Thus, claim 23 and, by extension, claim 24 which depends from that claim, are believed to be distinguishable over the combination of Imagawa '217, Loftin '793 and Tanaka et al. for the same reasons as claim 1.

The Examiner is, therefore, respectfully requested to reconsider and withdraw the rejection of claims 1-21 and 23-24 under §103 based on the combination of the three references discussed above.

SUMMARY

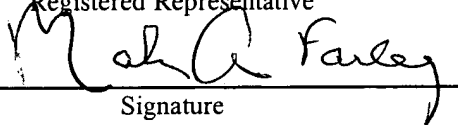
For all of the reasons above, the claims as now amended are all believed to distinguish the invention over each of the references cited in the Office Action, whether those references are taken individually or in any combination. Upon entry of this Amendment, therefore, it is believed that the entire application will be in condition for allowance. Alternatively, if the Examiner sees fit to maintain one or more of her rejections, however, this Response should materially reduce the issues for an appeal. Such entry is, therefore, respectfully solicited.

Should the Examiner believe that an interview would advance the prosecution of this application, she is respectfully invited to telephone applicant's representative at the number below to arrange for such an interview.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on April 18, 2006:

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Name of applicant, assignee or
Registered Representative

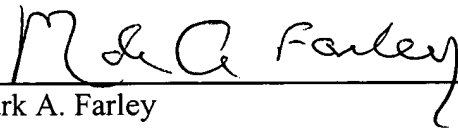


Signature

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Date of Signature

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